



# Digital TV Coat-Hanger Antenna

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## TOOLS:

- [1/16" drill bit \(1\)](#)
- [Needle Nose Pliers \(1\)](#)  
*A second pair comes in handy*
- [Pencil \(1\)](#)
- [Phillips head screwdriver \(1\)](#)
- [Ruler \(1\)](#)
- [hand electric drill \(1\)](#)

## PARTS:

- [Wire hanger \(6\)](#)
- [wooden board. \(1\)](#)  
*The board can be larger than those dimensions.*
- [Wood screws \(10\)](#)
- [Washer \(10\)](#)  
*Dunno the part sizes for washers, sorry!*
- [matching transformer \(1\)](#)

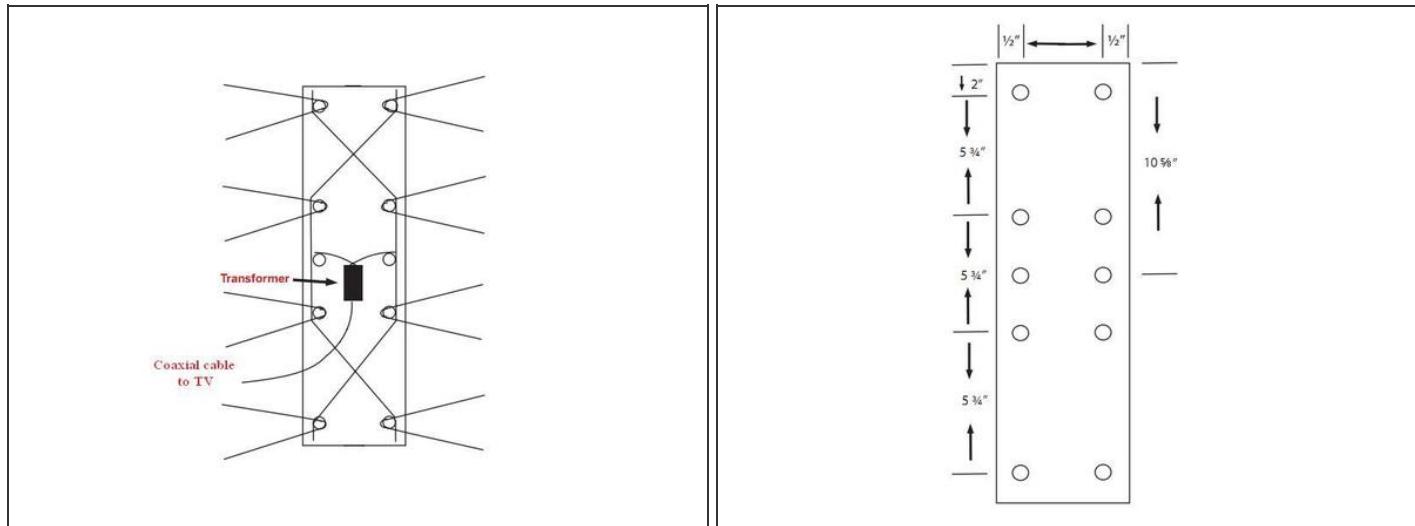
## SUMMARY

Television antennas are comprised of a series of metal rods cut to exact lengths and positioned so they receive a particular television frequency. The following design was invented in the 1960s by an engineer named Doyt Hoverman. It is particularly sensitive in the UHF frequency range, the same range used for the majority of digital television transmissions.

This isn't a project of my making, I merely wanted to comment on it in this space. All credit goes to Make:television for posting the (attached) instruction PDF.

Watch John Park do this.

## Step 1 — Mark the antenna frame



- Begin construction of the antenna by marking a 3" x 20" board as shown. Note that these dimensions are important to get a good signal with the finished antenna.
- This diagram was modified from the version in the PDF.

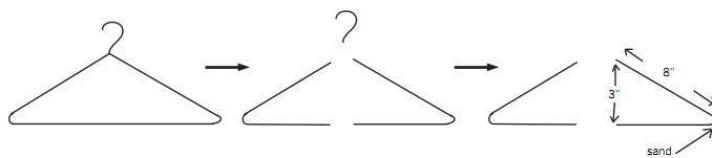


## Step 2 — Drill holes for mounting screws

- Drill a 1/16" pilot hole for each screw location.
- Don't forget the middle two holes!



### Step 3 — Cut four coat hangers and remove finish

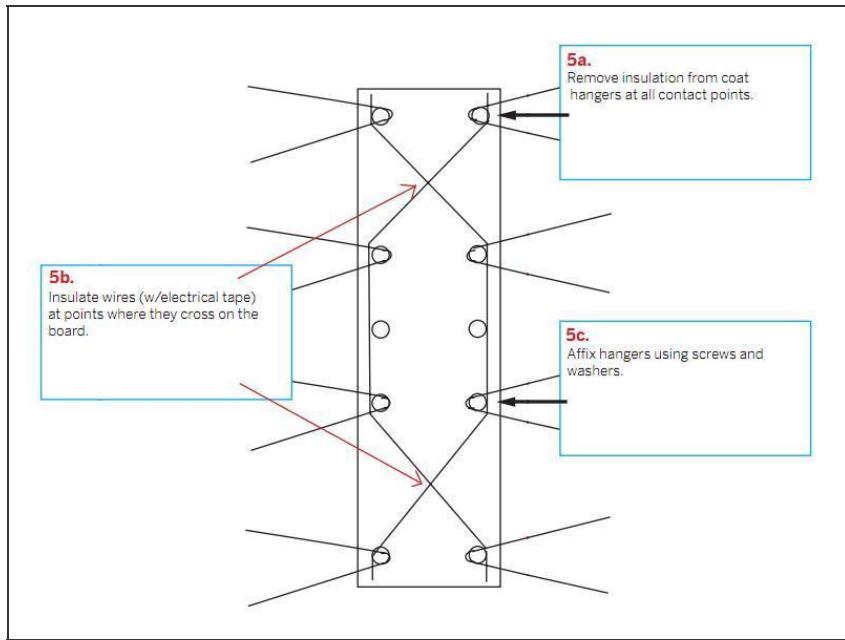


- Cut apart four wire coat hangers as shown in the diagram to obtain eight V-shaped pieces of wire.
- Once you have the V shape, cut the legs to be 8" long as measured from the bend.
- The ends should be 3" apart.
- Remove any paint or varnish at the bottom of the V so they'll make good electrical contact.

### Step 4 — Cut and straighten two coat hangers

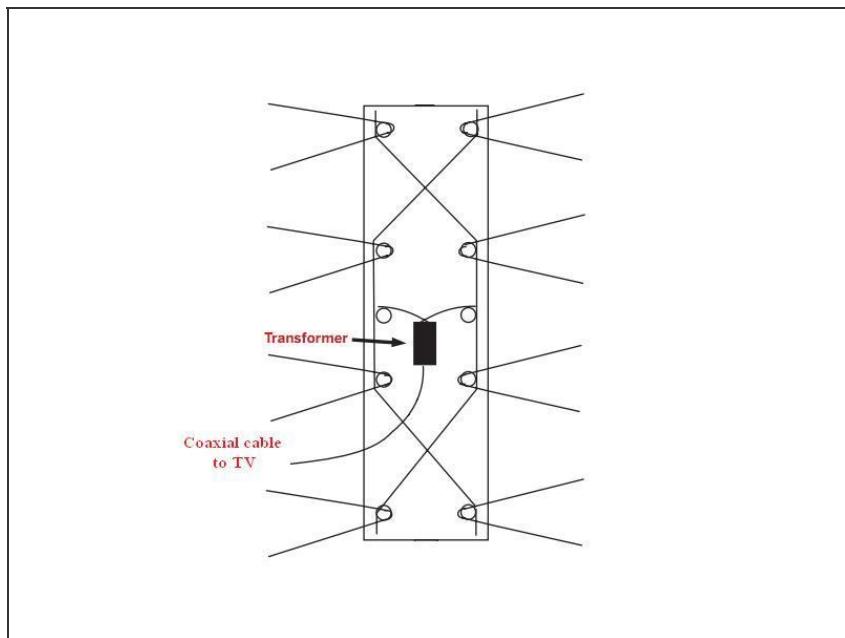
- Cut the hooks off of two coat hangers, and straighten them out with pliers to obtain two wires, at least 22" long.

## Step 5 — Attach wires to board



- Attach the wire pieces as shown, bending the wire to make good electrical contact with the screw heads.
- Note how the straight wires cross back and forth between the screws. 
- Remove insulation from coat hangers at all 10 contact points.
- Insulate wires (with electrical tape) at points where they cross on the board.

## Step 6 — Attach TV transformer



- Attach the matching transformer to the center two connections of the antenna.

I put this project here because I completed it and wanted to add my comments. I omitted the base which I didn't build, and updated the schematic. Please move or modify it as necessary for content and copyright compliance!

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